🐍 Python Mastery Blueprint — Weeks 1 to 16

Crafted for: Mike
Time Commitment: 10 hours/day
Mastery Tracks: Web Development | Automation | AI | Data Science

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🔹 Weeks 1–2: Core Python + Functional Thinking

🎯 Goal:

Master syntax, data structures, control flow, functions, and OOP basics.

Missions:

- ✅ Lists, sets, tuples, dicts, loops, comprehensions
- ✅ Functions: default args, *args, *kwargs, return values
- ✅ Lambda, `map()`, `filter()`, `enumerate()`
- ✅ Exception handling
- ✅ Intro to OOP — classes, attributes, `__init__()`

Mini-projects:

- Command-line contact book
- Dice simulator or ATM using OOP

🔹 Weeks 3–5: Web Development + Automation

🎯 Goal:

Build interactive web apps, REST APIs, and automate tasks.

Tools:

- Flask & Jinja2
- Django Basics (Week 5)
- `requests`, `smtplib`, `selenium`, `BeautifulSoup`

Projects:

- Flask blog or portfolio site
- REST API with Flask
- Web scraper that emails you the weather
- Django To-Do app

🔹 Weeks 6–7: Data Wrangling + Visualization

🎯 Goal:

Learn how to clean, manipulate, and visualize data like a pro.

Skills:

- NumPy arrays and Pandas DataFrames
- Matplotlib, Seaborn, Plotly
- Data types, missing data, grouping, filtering, merging

Projects:

- YouTube analytics dashboard
- Budget tracker with charts
- Real-time data dashboard using Streamlit

Weeks 8–10: Machine Learning & NLP

Goal:

Build real ML models and perform sentiment analysis and classification.

Topics:

- Supervised learning with scikit-learn
- Train/test split, cross-validation
- Feature scaling, confusion matrix, precision/recall
- NLP with TextBlob, NLTK, spaCy

Projects:

- Sentiment analyzer with custom data
- Text classifier (spam filter or genre detector)
- Simple recommendation engine

Weeks 11–13: Real-World Full-Stack Projects

Goal:

Go full-stack with apps that integrate web, data, and APIs.

Key Tech:

- Flask/Django + SQLAlchemy + PostgreSQL
- Streamlit + Pandas + ML integration
- Deployment with Render or Railway

Project Ideas:

- AI-powered resume scorer
- News summarizer app
- Voice-to-text notebook
- Personal CRM or task assistant

Week 14: Testing, DevOps & Git

Goal:

Prepare for real production work with modern Python workflows.

Topics:

- `pytest` and test coverage
- Git branching & pull requests
- Dockerizing your app
- GitHub Actions for CI/CD

Challenge:

- Docker + test + deploy your app to production

🗓️ Weeks 15–16: Portfolio & Capstone Projects

🎯 Goal:

Finish strong with polished, shareable apps and resume-ready code.

Steps:

- Choose 2–3 strong projects to polish
- Clean README + deploy link
- Optional: record a demo video
- Add LICENSE, docs, and GitHub badges

Capstone Ideas:

- Job application tracker (with NLP)
- AI podcast summarizer
- Expense predictor
- Flask + React habit tracker

🧰 Bonus Tools & Practice Platforms

- LeetCode & HackerRank for algorithm drills
- Real Python for deep dives
- Streamlit to build deployable dashboards
- Dillinger.io or Typora for Markdown-to-PDF exporting

Let’s make Python nervous. Your roadmap is your lightsaber, and you’re already Jedi-level focused. 🧙‍♂️⚔️